

## ABSTRACT

Wireless communication apparatus capable of improving communication efficiency by reducing the amount of control information transmitted is disclosed. With this apparatus, channel quality information extraction section (103) extracts CQI's from a received signal. Allocation control section 104 allocates subcarriers every communication terminal apparatus and selects a modulation scheme in such a manner that required transmission rate is satisfied for each communication terminal apparatus based on required transmission rate information etc. and CQI's for communication terminal apparatus of each user. Required subcarrier number determining section (105) decides the number of subcarriers allocated every communication terminal apparatus in such a manner as to satisfy the required transmission rate for each communication terminal apparatus based on required transmission rate information etc. of communication terminal apparatus of each user. Required subcarrier number information generating section (107) generates information for the number of subcarriers allocated every communication terminal apparatus. Subcarrier allocation section (110) allocates packet data to selected subcarriers. Modulating sections (111-1 to 111-N) adaptively modulate packet data allocated to each subcarrier.